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United States Department Of Agriculture | Forest Service | Shasta-Trinity National Forests

Reply To: 3420 Date: December 1, 1992

Subject: Biological Evaluation of Black Stain Root Disease in Frenchy #9298, Gasquet RD (FPM Report N92-10)

To: Forest Supervisor, Six Rivers National Forest

On October 29, 1992 I visited stand Frenchy #9298 (T. 17 N., R. 2 E., sections 28 and 29) to examine it for the presence of black stain root disease at the request of Dave Webb, Gasquet RD Silviculturist. This stand is located between County Road 411 and plantation French Hill E-5 where monitoring plots are established to evaluate the effects of certain management actions on black stain root disease.

This 33 acre stand has Douglas-fir, sugar pine, Jeffrey pine, knobcone pine and coast redwood. The canopy is three-layered. Hardwoods and shrubs dominate the lowest layer. Conifers and lesser amounts of hardwoods are in the upper two layers. The average age of the overstory conifers is 70 years. The stand probably originated following a fire that occurred around 1920 in the area. There have been no management activities in the stand other than minor salvage.

This stand is within the Prescribed Timber Management Area (Area #7) for the Smith River NRA. This provides for the sustained yield of wood products. There is also the objective to maintain as much of the existing structural diversity as possible for wildlife habitat. A third objective is to avoid excessive fuel loading within the stand.

Three distinct areas were found with black stain root disease affecting Douglas-fir (caused by Leptographium wageneri var. pseudotsugae). Two of these were in the larger size classes, while the third was in a small aggregation of pole-size trees. A complete examination of the stand was not done because of time and weather, but it is possible additional root disease centers are present. The area presently involved in root disease totals less than 1/4 acre.

The preferred silvicultural prescription is to thin from below to 200 ft^2/acre in the greater than 11 inch dbh class, leaving all hardwoods and trees smaller than 11 inches dbh. It is anticipated this could be accomplished with a small tractor and endlining. Slash will be handpiled. A second entry will reduce stocking in the smaller diameter classes by allowing fuelwood entry by the public. This will be accomplished either by allowing the public to drive into the stand to load fuelwood or to yard trees to the county road with a small yarder.

This stand is located in an area with high levels of black stain root disease. The disease is already present in the stand. This suggests that levels of root disease could increase following management activities. Surveys and limited

studies indicate that site disturbance and thinning activities result in increased levels of infection in some areas. French Hill appears to be one of these areas.

Several activities can be implemented with the above prescription that may lessen the likelihood of increased black stain root disease activity. Activities that cause site disturbance and root injury should be minimized or mitigated. For example, the disease is usually more commonly observed along skid trails so these should be minimized, if not avoided, in the commercial entry. As much endlining and falling to the skid trail as possible should be required. This includes the establishment of predesignated skid trails. It would be preferable to accomplish this entry by yarding rather than tractor skidding. The second entry for fuelwood should also be accomplished by yarding to the road rather than allowing the entry of trucks onto the site. Maintaining species diversity by leaving trees other than Douglas-fir is advantageous by interfering with underground spread of the fungus between hosts. Non-hosts should be especially favored within existing root disease centers and in a buffer 2-3 tree spacings wide around them. Timing of tree cutting activities to avoid the peak period of insect vector flight is also recommended. Operations should be scheduled to occur between the end of June and early September. This will avoid the peak flight period and permit most of the slash to dry and be unattractive to the insects prior to the next spring.

Small openings that are occupied with conifers other than Douglas-fir, hardwoods, and shrubs may provide additional diversity to the stand, both in species and structure. A few additional root disease centers in the stand that remain small may be beneficial for wildlife habitat. Unfortunately, we cannot predict how many centers may develop with the prescription developed, nor how large they may become. Rather than risking the stand to larger losses from black stain root disease, taking the precautions discussed above when implementing the prescription appears to be prudent.

If you have questions about this report or require additional assistance, I can be contacted at 916-246-5101.

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